

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A speech processing system, comprising:
 - an acoustic model;
 - a composite language model that supports a vocabulary of words and including a rules-based model portion and a statistical model portion having a plurality of statistical n-gram models trained based on training data, one statistical n-gram model corresponding to each of a plurality of pre-terminals, and wherein words in the vocabulary that are not used to train a specific statistical n-gram model comprise unseen words for the specific statistical n-gram model, the statistical model portion further comprising a backoff model n-gram, separate from the plurality of statistical n-gram models corresponding to the pre-terminals, which, when accessed, is configured to assign a backoff score to a word in the vocabulary, wherein each statistical n-gram model includes a reference to the backoff model portion for all unseen words; and
 - a decoder coupled to the acoustic model and the composite language model and configured to map portions of a natural language speech input to the pre-terminals and slots, derived from a schema, based on the acoustic model and the composite language model.
2. (Original) The speech processing system of claim 1 wherein the decoder is configured to map portions of the natural language speech input to the slots based on the rules-based model portion of the composite language model.
3. (Original) The speech processing system of claim 1 wherein the decoder is configured to map portions of the natural language speech input to the pre-terminals based on the statistical model portion of the composite language model.
4. Canceled.

5. Canceled.
6. Canceled.
7. Canceled.

8. (Currently Amended) The speech processing system of claim 71 wherein the backoff model ~~portion comprises:~~
a uniform distribution ~~n-gram that assigns n-gram~~ assigns a uniform score to every word in the vocabulary.

9. (Original) The speech processing system of claim 1 wherein the rules-based model portion comprises:

a context free grammar (CFG).

10. (Original) A method of assigning probabilities to word hypotheses during speech processing, comprising:

receiving a word hypothesis;
accessing a composite language model having a plurality of statistical models and a plurality of rules-based models;
assigning an n-gram probability, with an n-gram model, to the word hypothesis if the word hypothesis corresponds to a word seen during training of the n-gram model;
and
referring to a separate backoff model for the word hypothesis if the word hypothesis corresponds to a word unseen during training of the n-gram model; and
assigning a backoff probability to each word hypothesis, that corresponds to an unseen word, with the backoff model.

11. (Original) The method of claim 10 and further comprising:

mapping the word hypotheses to slots derived from an input schema based on the rules-based models in the composite language model.

12. (Original) The method of claim 11 and further comprising:
mapping the word hypotheses to pre-terminals derived from the input schema based on probabilities assigned by the n-gram models and the backoff model in the composite language model.
13. (Original) The method of claim 12 wherein referring to a separate backoff model comprises:
referring to a uniform distribution n-gram.
14. (Original) The method of claim 13 wherein assigning a backoff probability comprises:
assigning a uniform distribution score to every word in the vocabulary.
15. (Currently Amended) A composite language model for use in a speech recognition system, comprising:
an automatically learned rules-based model portion accessed to recognize words in the input speech signal and to map portions of an input speech signal to slots derived from a schema; and
a statistical model portion accessed to map portions of the input speech signal to pre-terminals derived from the schema.
16. (Original) The composite language model of claim 15 wherein the statistical model portion comprises:
a plurality of statistical n-gram models, one statistical n-gram model corresponding to each pre-terminal.
17. (Currently Amended) The composite language model of claim 15 wherein the rules-

based model portion comprises:

~~a~~ an automatically learned context free grammar (CFG), learned from an example base of training data examples.

18. (Original) The composite language model of claim 16 wherein the composite language model supports a vocabulary of words and wherein the statistical n-gram models are trained based on training data, and wherein words in the vocabulary that are not used to train a specific statistical n-gram model comprise unseen words for the specific statistical n-gram model.

19. (Original) The composite language model of claim 18 wherein the statistical model portion of the composite language model further comprises:

a backoff model portion which, when accessed, is configured to assign a backoff score to a word in the vocabulary.

20. (Original) The composite language model of claim 19 wherein each statistical n-gram model includes a reference to the backoff model portion for all unseen words.

21. (Original) The composite language model of claim 20 wherein the backoff model portion comprises:

a uniform distribution n-gram that assigns a uniform score to every word in the vocabulary.